

New, rare or uncommon fishes from Japanese waters. I

Liparis franzi, new name

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Among the fine fish specimens in the Biological Laboratory, Imperial Household, which the present writer examined during summer, 1948–summer, 1949, through the courtesy of Dr. K. Hattori, Mr. T. Saito and Mr. H. Tsujimura, were found several species belonging to the family *Liparidae*. In this paper is treated of one of these species as it is believed to be unnamed. The writer wishes to express here his thanks to those biologists of the Biological Laboratory, Imperial Household, mentioned above by name for their kindness in giving him the privilege of examining and reporting upon the valuable fish specimens in the Laboratory.

LIPARIS FRANZI, new name

(Suji-kusa-uo, new Japanese name)

Liparis liparis Franz, 1910, p. 77, pl. 9, fig. 76 (Fuku-ura, near Atami, Japan; Misaki, Japan).

This species was first described by Franz in 1910 and seems to have since escaped the notice of Japanese ichthyologists. It is closely related to *Liparis liparis* (Linnaeus) of northern Europe to which he referred, but there are some differences as was pointed out by Burke (1930) and as will be mentioned under the heading of "Remarks" of the present paper, and it is believed necessary to give a new scientific name to the Japanese form. Furthermore, the description by Franz is rather a short one, mention not being made of several important characters, and it is thought desirable to present description of a fine specimen (Biological Laboratory, Imperial Household, Pisc. No. 115) together with notes on another specimen (Zoological Institute, Faculty of Science, Tokyo University, No. 30206) and remarks regarding the taxonomic position of the present form.

DESCRIPTION OF A SPECIMEN (Biol. Lab., Imp. Household, Pisc. No. 115) (Figs. 1 and 2): Total length 85 mm., collected in Tokyo Bay; the name of the collector and the date of collecting unknown. ♀, eggs measure 1.0 mm. in diameter. Measurements are expressed in hundredths of the



Fig. 1. *Liparis franzi*, new name. Biol Lab., Imp. Household, Pisc. No. 115.



Fig. 2. Dorsal view of the specimen shown in Fig. 1.

standard length, 72 mm. Greatest depth of body 23.6; greatest width of body 24.3; least depth of caudal peduncle 6.9; length of head 26.4; length of snout (measured parallel to the longitudinal axis of body) 7.6; diameter of eye 3.5; diameter of ventral disk 11.1–12.5.

D. 33 (all the rays not branched; the anteriormost 5 rays not divided from the base, not segmented, bifid at the tip; 6th–32nd rays divided but not branched; 10th–32nd rays segmented, with less segments anteriorly; 33rd ray much shorter and thinner than the 32nd, and not segmented). A. 26 (all the rays divided, but not branched; 1st–3rd rays unsegmented, 4th–26th rays segmented). P. left. 31; right. 31 (all the rays divided and segmented, but not branched). C. iii (not segmented) / 11 (segmented) / ii (not segmented); all the rays not branched.

Body rather depressed anteriorly, and much compressed posteriorly. Snout bluntly rounded; mouth almost horizontal, upper lip slightly protruding. Nostril tube single on each side, projecting a little above the surface of the head; the distance between the postero-ventral corner of nostril and the anterodorsal corner of eye is a little less than the diameter of eye; the so-called posterior nostril lacking. "Pores" are: snout pores 2, maxillary pores 6, mandibular pores 7 and suprabranchial pores 2 (*vide* Burke, 1930, p. 8, fig. 1). Three very small pits behind nostril tube and in front of eye.

Teeth blunt, weakly trilobed, arranged in oblique rows on upper jaw and

forming a narrow band on the lower. The lining of buccal cavity with minute papillae. Pupil is an elliptical slit, the long axis being vertical to the longitudinal axis of body. Gill-slit confined to the region above the base of pectoral fin. Pseudobranchiae with 4 or 5 filaments. Dorsal fin begins a little in advance of the vertical through the vent, notched indistinctly at the 4th-5th rays (or rather spines); its connection with caudal fin very short, forming a distinct notch at the junction. The connection of anal fin with caudal fin is also short, but a little longer than in the connection between dorsal and caudal fins. Caudal fin slightly rounded. Pectoral fin notched below, at about the 9th ray from the lowermost ray. The vent is a little nearer to the disk than to the origin of anal fin. Skin very soft, without prickles, and detached from the muscles appearing as a transparent sack.

Color in formalin: Brownish, with longitudinal narrow pale and brown stripes on trunk (some fifteen in number) and head; dorsal and anal fins with a longitudinal brownish line, the distal part of the fins brown. Caudal fin-rays with brown spots. Peritoneum pale.

NOTES ON ANOTHER SPECIMEN (Zool. Inst., Fac. of Science, Tokyo Univ., No. 30206): Total length 70 mm., collected by Dr. Shigeho Tanaka at Misaki; the date of collecting unknown. ♀, eggs measure 0.2-1.0 mm. in diameter. Measurements are expressed in hundredths of the standard length, 57.5 mm. Greatest depth of body 26.1 (belly is swollen due to the large eggs contained in it); greatest width of body 27.8 (although belly is swollen as mentioned just above, the widest part of body is, as in the specimen described above, in the posterior part of head; least depth of caudal peduncle 7.0; length of head 26.1; length of snout (measured parallel to the longitudinal axis of body 9.2; diameter of eye 3.5; diameter of ventral disk 12.2-13.0.

D.33 (the first 4 rays not divided, the succeeding ones divided; posterior rays segmented (including the last ray); notched at the 4th-5th rays (or rather spines). A. 26 (all the rays divided, the 3rd and the succeeding rays segmented excepting the last ray which is rudimentary and not reaching the margin of the membrane connecting dorsal and caudal fins). P. left. *ca.* 30; right. *ca.* 29 (notched at the 9th ray of the left fin and at the 7th-8th rays of the right fin counted from the lowermost ray; all the rays divided and segmented, but not branched). C. iv (unsegmented) / 11 (segmented and unbranched) / ii (unsegmented). Pyloric coeca *ca.* 10.

The form of body as in the specimen described above, differing from the latter in having larger belly due to the larger mass of eggs contained. The position of gill-opening, position and number of peres, nostrils and pits behind the nostril as in the specimen described above. Pupil rather oval, its long axis being nearly vertical to the longitudinal axis of body. Teeth of the

both jaws distinctly trilobed; those of the upper jaw numerous and arranged irregularly, and those of the lower arranged in oblique rows. The lining of buccal cavity with many minute papillae. The connection of dorsal and caudal fins and that of anal and caudal fins as in the specimen described above. Pseudobranchiae with four or five filaments.

Coloration as in the specimen described above excepting for the brown and white wavy lines on dorsal fin. Peritoneum dark anteriorly.

REMARKS: The present species resembles the following species, but differs from them in the absence of the posterior nostril and in the characters mentioned below.

1. *Liparis liparis* (Linnaeus). D. 24-35; A. 29; P. 32-33; disk more than 2 in head; gill slit extending down in front of 1 to 3 pectoral rays. (After Burke, 1930.) D. 36-41; A. 30-41. (After Parr, 1932. A. 27-29; P. 34-37 (After Garman, 1892.)
2. *Liparis micraspidophorus* (Gilbert and Burke). Pyloric coeca 55-65; gill slit extending down in front of 4-5 pectoral rays; in life uniform brownish red. (After Burke, 1930.)
3. *Liparis mucosus* (Ayers). Pyloric coeca 48-70; gill slit extending down in front of 1 to 6 rays, usually in front of more than 3 rays. (After Burke, 1930.)
4. *Liparis callyodon* (Pallas). Pyloric coeca 42-46; disk 2.2-3 in head. (After Burke, 1930.)
5. *Liparis curilensis* (Gilbert and Burke). Pyloric coeca 65. (After Burke 1930.)
6. *Liparis rutteri* (Gilbert and Snyder). Pyloric coeca 23-31; a white bar across the base of caudal fin. (After Burke, 1930.)
7. *Liparis atlanticus* Jordan and Evermann. Pyloric coeca 19-37; P. 26-28; color reddish brown to olive brown, caudal fin faintly barred, in some specimens bars extending from dorsal and anal fins onto the body. (After Burke, 1930.)
8. *Liparis montagui* (Donovan). Pyloric coeca 22; dorsal fin distinctly notched (After Burke, 1930.)

According to Burke, 1930, p. 40, *Liparis major* (Gill) and *L. tessellatus* (Gilbert and Burke) approach the condition found in *Careproctus* in certain characters such as coloration and reduced posterior nostril. Only in the latter character the present species seems to depart from *Liparis*, and it seems not improbable that close examination of further material will reveal every gradation of the reduction of the posterior nostril in this species as is suggested by the presence of minute pits behind the anterior nostril in the two specimens mentioned above.

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